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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
HOANG, THAI D.	

ART UNIT	PAPER NUMBER
2667	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/274,797	STORR, MORTEN	
	Examiner	Art Unit	
	Thai D Hoang	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 August 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *37-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *37-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *12* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims are rejected under 35 U.S.C. 102(e) as being unpatentable over Lincoln, U.S patent No. 6,301,226.

Regarding claims 37 and 51, Lincoln discloses a method and system, which is called "Asynchronous Transfer Mode System and Method". Lincoln's method is operated as follows:

Before a source sends a first cell after a connection set-up to a source, the source shall set the allowable cell rate to at most an initial cell rate (ICR). The first in-rate cell shall be a forward resource management (RM) cell. The source shall never send in-rate cells at a rate exceeding the allowable cell rate (ACR). The source may always send in-rate cells at a rate less than or equal to the allowable cell rate (ACR);

col. 8, lines 22-35. Also, Lincoln teach that if a cell has been scheduled for the particular time slot, the block 100 in FIG. 4 selects a virtual channel connection in a table 102 in the control memory 38. As shown in FIG. 4, the table 102 contains a plurality of virtual channel connections, which are illustratively designated as "VCC 1", "VCC 2", "VCC 3", etc. The virtual channel connection VCC 2 is illustratively shown as being selected in the table 102; col. 5, lines 57-63 (determining rate-based, flow-control data in a network switch, in response to receipt of a forward resource management control cell in the network switch, the forward resource management control cell corresponding to a connection linking a source node and a destination node via the network switch)

When received by the station B, the forward RM cells 134 become backward RM cells 136 in the station B. The backward RM cells are transmitted in the receive direction by the station B through the switch 132 to the station A. FIG. 5 also illustrates at 138 forward RM cells which are transmitted in the receive direction by the station B through the switch 132 to the station A. When received by the station A, these forward RM cells become backward RM cells 140 in the transmit direction from the station A to the station B. The backward RM cells 140 are then transmitted in the transmit direction from the station A through the switch 132 to the station B; col. 7, lines 8-17 (receiving in the network switch, from the destination node, a backward resource management control cell corresponding to the forward resource management control cell.)

When the station A is transmitting cells in the transmit direction to the station B, the station A changes its rate depending upon the response of the station B and the response of the switch 132 in the receive direction from the station B to the station A;

col. 7, lines 22-26 (modifying in the network switch the backward resource management control cell, before forwarding the backward resource management control cell to the source node, based on the rate-based, flow-control data determined in response to the receipt of the forward resource management control cell.)

Regarding claim 38, Lincoln discloses that the system uses Asynchronous Transfer Mode (ATM) in both forward and backward resource management cells (abstract.)

Regarding claim 39, Lincoln discloses the first resource management data stored in a database (element 38, figures 2-4 and 7) and retrieving the first resource management data from the database using virtual channel associated with the second control cell (forward RM cell from the switch to the destination B; fig. 5; col. 7, lines 5-7.)

Regarding claim 40, Lincoln discloses that the ABR manager 154 (fig. 6) may receive through the line 1a a forward resource management (RM) cell and a VCC (or source) number, which is stored in a queue of the control memory 38; fig. 5, col. 11, lines 19-23 (receiving the forward resource management control cell in the network switch and placing a management event record corresponding to the forward resource management control cell in a queue). Also. FIG. 5 of Lincoln's system illustrates at 134 forward RM cells transmitted in the transmit direction by the station A through the switch 132 to the station B; col. 7, lines 5-7 (forwarding the forward resource management control cell); and sending resource management cell from the queue for processing the data using a rate control algorithm; fig. 3-4, 6; col. 7, lines 31-42; algorithm: col. 8, line

22 – col. 10, line 27 (processing the management event record using a rate control algorithm to produce the rate-based, flow-control data.)

Regarding claim 41, Lincoln's method comprises a placing virtual channel identification data in a queue (set up virtual channel identification in a queue; fig. 3, elements 72 and 73; fig. 4 element 102; col. 5, lines 60-65), and removing the virtual channel identification data from the queue, and processing the data using a rate control algorithm (col. 6, line 61 – col. 7, line 4; col. 7, lines 31-42.)

Regarding claim 42, a block 208 in FIG. 12a in the system disclosed by Lincoln indicates how the new one of the Rate Decision Blocks 170 is selected to alleviate the congestion indication on the line 203. The value of the mantissa is stored in an explicit rate field in the backward RM cell. The new one of the rate decision blocks 170 is computed from this value of the mantissa and from the Exponent Base and Shift values in the Exponent Table 168. The Congestion Explicit Rate from the new one of the rate decision blocks 170 is then read. This Congestion Explicit Rate is the new cell rate to be provided in the system to avoid congestion. This Congestion Explicit Rate replaces the previous Congestion Explicit Rate in the backward RM cell. Therefore, it implies that the system uses explicit rate indication for congestion avoidance in ATM networks algorithm.

Regarding claims 43-44, Lincoln discloses that a forward resource management cell comprises an explicit rate parameter and a congestion parameter and modifying these parameters in the backward resource management cell (abstract; col. 2, lines 25-28; col. 7, line 43 – col. 8 line 5; figures 10-13.)

Regarding claim 45, Lincoln discloses that the system comprises:

a source port circuitry to send and receive control cells on a source virtual channel;

a destination port circuitry to send and receive control cells over a destination virtual channel (figures 2 and 5-6, elements 30 and 45);

a switch circuitry couples a source port and a destination port, which comprises a circuitry to exchange data and control cells between a source and a destination (figure 5, element 132);

a management portion couples to the source port to receive a control cell and compute resource management (figures 2 and 6, elements 29 and148 respectively);

a return cell circuitry (fig. 6, element 148) to receive control cells from a destination port, to modify control cells based on the resource management data computed (fig. 6, elements 38, 154, 156), and to provide the modify control cells to a source port over source virtual channel (fig. 6, element 152; col. 7, lines 22-30; col. 9, lines 8-14; col. 11, lines 21-30.)

Regarding claim 46, Lincoln's system comprises a processor, which is connected to a memory (figure 2), the memory stores instructions to configure the processor to compute and store resource management data (fig. 3 and 4, elements 75 and 106 respectively.)

Regarding claim 47, the instructions in Lincoln's system inherently associate resource management data to control information in control cells.

Regarding claim 48, Lincoln discloses a system, which comprises a shared processor coupled to a memory (figure 2.)

Regarding claim 49, Lincoln's system inherently shares transmission circuitry by a physical link from a source to destination to get beneficial for economic reasons.

Regarding claim 50, both data cells and control cells in Lincoln's system are ATM cells, since Lincoln discloses a method for ATM system (abstract.)

Regarding claim 52, Lincoln discloses that the ABR manager 154 (fig. 6) may receive through the line 1a a forward resource management (RM) cell and a VCC (or source) number, which is stored in a queue of the control memory 38; fig. 5, col. 11, lines 19-23. Furthermore, the control memory 38 (FIG. 7) includes a table, which is generally indicated at 160 and which provides the values of a plurality of parameters in a plurality of different fields. This table is designated as ABR State (per VCC). This table indicates the values of a number of different parameters which are provided in different fields in the ABR State table 160 and which are individually used to facilitate the operation of the system and method of this invention (means for generating forward resource management (FRM) events from FRM cells in response to receipt of the FRM cells and means for storing the FRM events for later processing.)

Regarding claim 53, Lincoln teaches in fig. 6 that the scheduler 156 identifies the VCC (or the source) number providing the cell information to be processed. This VCC (or source) number is passed through the line 3a to the available bit rate (ABR) manager 154; col. 11, lines 1-4. In addition, fig. 7 shows detail of the control memory 38, which includes a table, which is generally indicated at 160 and which provides the

values of a plurality of parameters in a plurality of different fields. This table is designated as ABR State (per VCC); col. 11, lines 34-38. Therefore, it indicates that the system comprises a means for generating the plurality of parameters of the FRM cells for each VCC indicated in the FRM cell (the means for generating the FRM events comprises means for extracting virtual channel data from the FRM cells). Lincoln discloses that the control memory 38 stores FRM cell information in a queue; fig. 3-4, 6-7 (the means for storing the FRM events comprises a queue).

Regarding claim 54, Lincoln discloses that the control memory 38 stores FRM cell information in a queue; fig. 3-4, 6-7 (means for storing resource management data prepared using the FRM events). In addition, Lincoln teaches that when the station A is transmitting cells in the transmit direction to the station B, the station A changes its rate depending upon the response of the station B and the response of the switch 132 in the receive direction from the station B to the station A, col. 7, lines 22-26. Furthermore, Lincoln discloses in fig. 13-14 a procedure to adjust transmission rate (means for comparing received backward resource management (BRM) cells with the stored resource management data to determine whether to modify the BRM cells before forwarding.)

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art with respect to the application:

US Patent No. 5,987,031 A, Miller et al disclose a method for fair dynamic scheduling of available bandwidth rate (ABR) service under asynchronous transfer mode (ATM)

US Patent No. 6,438,107 B1, Somiya et al disclose a cell transfer rate control apparatus and method

US Patent No. 6,556,542 B1 Sudo et al disclose a transfer rate controlling device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D Hoang whose telephone number is (703) 305-3232. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Thai Hoang

CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 9/2/03